

# ULTRIX

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Reference Pages  
Section 3: Library Routines



**ULTRIX**

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## **Reference Pages Section 3: Library Routines**

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ULTRIX Version 4.0 or higher

This manual describes the routines available in the ULTRIX libraries for programmers on both RISC and VAX platforms.

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# About Reference Pages

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The *ULTRIX Reference Pages* describe commands, system calls, routines, file formats, and special files for RISC and VAX platforms.

## Sections

The reference pages are divided into eight sections according to topic. Within each section, the reference pages are organized alphabetically by title, except Section 3, which is divided into subsections. Each section and most subsections have an introductory reference page called `intro` that describes the organization and anything unique to that section.

Some reference pages carry a one- to three-letter suffix after the section number, for example, `scan(1mh)`. The suffix indicates that there is a "family" of reference pages for that utility or feature. The Section 3 subsections all use suffixes and other sections may also have suffixes.

Following are the sections that make up the *ULTRIX Reference Pages*.

### Section 1: Commands

This section describes commands that are available to all ULTRIX users. Section 1 is split between two binders. The first binder contains reference pages for titles that fall between A and L. The second binder contains reference pages for titles that fall between M and Z.

### Section 2: System Calls

This section defines system calls (entries into the ULTRIX kernel) that are used by all programmers. The introduction to Section 2, `intro(2)`, lists error numbers with brief descriptions of their meanings. The introduction also defines many of the terms used in this section.

### Section 3: Routines

This section describes the routines available in ULTRIX libraries. Routines are sometimes referred to as subroutines or functions.

### Section 4: Special Files

This section describes special files, related device driver functions, databases, and network support.

## Section 5: File Formats

This section describes the format of system files and how the files are used. The files described include assembler and link editor output, system accounting, and file system formats.

## Section 6: Games

The reference pages in this section describe the games that are available in the unsupported software subset. The reference pages for games are in the document *Reference Pages for Unsupported Software*.

## Section 7: Macro Packages and Conventions

This section contains miscellaneous information, including ASCII character codes, mail addressing formats, text formatting macros, and a description of the root file system.

## Section 8: Maintenance

This section describes commands for system operation and maintenance.

## Platform Labels

The *ULTRIX Reference Pages* contain entries for both RISC and VAX platforms. Pages that have no platform label beside the title apply to both platforms. Reference pages that apply only to RISC platforms have a "RISC" label beside the title and the VAX-only reference pages that apply only to VAX platforms are likewise labeled with "VAX." If each platform has the same command, system call, routine, file format, or special file, but functions differently on the different platforms, both reference pages are included, with the RISC page first.

## Reference Page Format

Each reference page follows the same general format. Common to all reference pages is a title consisting of the name of a command or a descriptive title, followed by a section number; for example, `date(1)`. This title is used throughout the documentation set.

The headings in each reference page provide specific information. The standard headings are:

Name	Provides the name of the entry and gives a short description.
Syntax	Describes the command syntax or the routine definition. Section 5 reference pages do not use the Syntax heading.
Description	Provides a detailed description of the entry's features, usage, and syntax variations.
Options	Describes the command-line options.
Restrictions	Describes limitations or restrictions on the use of a command or routine.
Examples	Provides examples of how a command or routine is used.



Return Values	Describes the values returned by a system call or routine. Used in Sections 2 and 3 only.
Diagnostics	Describes diagnostic and error messages that can appear.
Files	Lists related files that are either a part of the command or used during execution.
Environment	Describes the operation of the system call or routine when compiled in the POSIX and SYSTEM V environments. If the environment has no effect on the operation, this heading is not used. Used in Sections 2 and 3 only.
See Also	Lists related reference pages and documents in the ULTRIX documentation set.

## Conventions

The following documentation conventions are used in the reference pages.

%	The default user prompt is your system name followed by a right angle bracket. In this manual, a percent sign ( %) is used to represent this prompt.
#	A number sign is the default superuser prompt.
<b>user input</b>	This bold typeface is used in interactive examples to indicate typed user input.
system output	This typeface is used in text to indicate the exact name of a command, routine, partition, pathname, directory, or file. This typeface is also used in interactive examples to indicate system output and in code examples and other screen displays.
UPPERCASE lowercase	The ULTRIX system differentiates between lowercase and uppercase characters. Literal strings that appear in text, examples, syntax descriptions, and function definitions must be typed exactly as shown.
<b>rlogin</b>	This typeface is used for command names in the Syntax portion of the reference page to indicate that the command is entered exactly as shown. Options for commands are shown in bold wherever they appear.
<i>filename</i>	In examples, syntax descriptions, and routine definitions, italics are used to indicate variable values. In text, italics are used to give references to other documents.
[ ]	In syntax descriptions and routine definitions, brackets indicate items that are optional.
{   }	In syntax descriptions and routine definitions, braces enclose lists from which one item must be chosen. Vertical bars are used to separate items.

- ... In syntax descriptions and routine definitions, a horizontal ellipsis indicates that the preceding item can be repeated one or more times.
- A vertical ellipsis indicates that a portion of an example that would normally be present is not shown.
- cat(1) Cross-references to the *ULTRIX Reference Pages* include the appropriate section number in parentheses. For example, a reference to cat(1) indicates that you can find the material on the cat command in Section 1 of the reference pages.

## Online Reference Pages

The ULTRIX reference pages are available online if installed by your system administrator. The man command is used to display the reference pages as follows:

To display the ls(1) reference page:

```
% man ls
```

To display the passwd(1) reference page:

```
% man passwd
```

To display the passwd(5) reference page:

```
% man 5 passwd
```

To display the Name lines of all reference pages that contain the word "passwd":

```
% man -k passwd
```

To display the introductory reference page for the family of 3xti reference pages:

```
% man 3xti intro
```

Users on ULTRIX workstations can display the reference pages using the unsupported xman utility if installed. See the xman(1X) reference page for details.

## Reference Pages for Unsupported Software

The reference pages for the optionally installed, unsupported ULTRIX software are in the document *Reference Pages for Unsupported Software*.